

FIG 500 HIGH LIFT SAFETY VALVE

FEATURES & BENEFITS

The NABIC 500 is designed primarily for use on unvented hot water heating systems, where a high capacity, emergency steam relief capability is required. All wetted parts are manufactured from dezincification resistance materials. Designed and tested to BS EN ISO 4126 -1. WRAS approved (1 bar and above).

- Size Range: DN10 - DN65
- Resilient PTFE seating design with high degree of seat tightness
- Easy inspection and cleaning
- High discharge capacity
- Diaphragm protected parts
- Available with Viton seat design
- Padlock available (complies with M&E3)
- Pressure setting locked and sealed
- Drain plug fitted on DN32 and above



PRESSURE RATINGS & TEMPERATURE RANGE

| MIN - MAX SET PRESSURE (bar) | MIN - MAX TEMPERATURE (°C) |
|------------------------------|----------------------------|
| 0.4 to 12.5 | -20 to 195 |

DIMENSIONS & WEIGHTS

| SIZE DN | Rp BSP Inlet | Rp BSP Outlet | A (mm) | B (mm) | C (mm) | WEIGHTS (kg) |
|---------|--------------|---------------|--------|--------|--------|--------------|
| 10 | 3/8" | 1/2" | 26 | 21 | 101 | 0.32 |
| 15 | 1/2" | 3/4" | 33 | 20 | 120 | 0.53 |
| 20 | 3/4" | 1" | 39 | 24 | 132 | 0.76 |
| 25 | 1" | 1 1/4" | 45 | 30 | 155 | 1.35 |
| 32 | 1 1/4" | 1 1/2" | 54 | 36 | 201 | 2.35 |
| 40 | 1 1/2" | 2" | 64 | 41 | 241 | 4.20 |
| 50 | 2" | 2 1/2" | 76 | 47 | 267 | 6.80 |
| 65 | 2 1/2" | 3" | 90 | 60 | 330 | 12.50 |

PART NAME & MATERIALS

| ITEM NO. | PART NAME | MATERIAL |
|----------|---------------------------|---|
| 1 | Thrust Washer | Brass, BS EN 12164 CW609N |
| 2 | Grubscrew | Steel |
| 3 | Test Lever | Brass, BS EN 1982 CC754S |
| 4 | Spring | Chrome Vanadium Alloy Steel, BS 2803 735 A50 HS (Stainless Steel, BS 2056 302S26 Opt) |
| 5 | Label | Yellow kapton |
| 6 | Spring Cover | Bronze, BS EN 1982 CC491K |
| 7 | Piston | Brass, BS EN 12164 CW609N |
| 8 | Diaphragm | Silicon Rubber |
| 9 | Seat Seal Holder | Bronze, BS EN 1982 CC491K / Brass BS EN 12164 CW602N (DZR) |
| 10 | Seat Seal | PTFE (Viton Opt) |
| 11 | Starlock Washer | Stainless Steel |
| 12 | Body | Bronze, BS EN 1982 CC491K |
| 13 | Lever Pin | Steel |
| 14 | Lead Seal (Not shown) | Lead |
| 15 | Adjusting Screw | Brass, BS EN 12164 CW609N |
| 16 | Spring Plate | Brass, BS EN 12164 CW609N |
| 17 | Spindle | Brass, BS EN 12164 CW721R |
| 18 | Seat Seal Retaining Plate | Bronze, BS EN 1982 CC491K / Brass BS EN 12164 CW602N (DZR) |
| 19 | O-Ring | Viton |

MEDIUM

Hot water, steam, compressed air and inert gasses, CO2 (to 20°C), ethylene glycol, potable water.

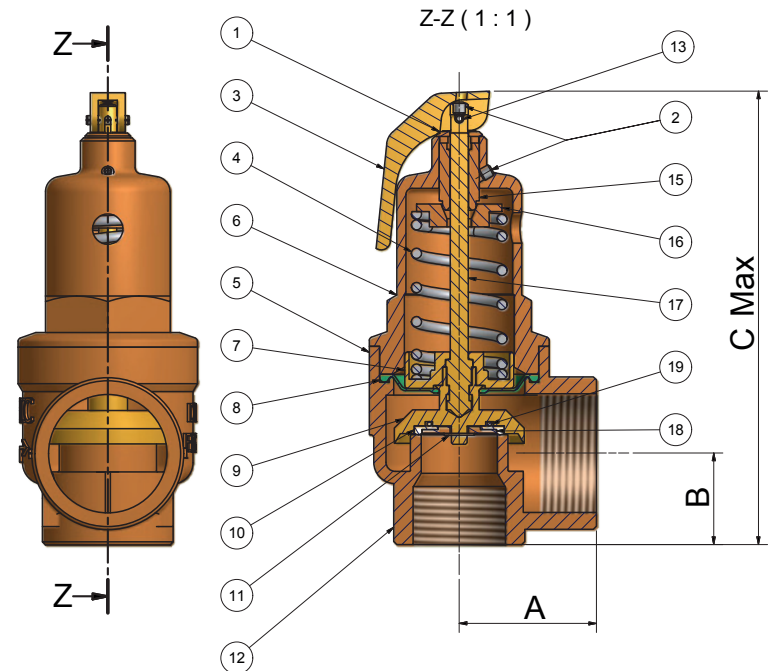
PIPE CONNECTIONS

Screwed female inlet and outlet connections. Outlet connection is one size larger than inlet connection. Threaded connections are 'Rp' parallel to BS EN 10226-1. NPT connections are available upon request.

PRODUCT TESTING

All valves are shell and seat tested (to confirm set pressure) before leaving the factory and all valves are supplied pre-set with a tamper proof seal. Pressure Test Certificate and Letters of Conformity available on request.

DIMENSIONAL DRAWING



APPROVALS



ISO 14001 Reg No. EMS 78657



FM00311 ISO 9001



Pressure Equipment Directive PED 97/23/EC and Article 13 of 2014/68/EU



DISCHARGE CAPABILITIES

The discharge capacity of a safety valve must be equal to or greater than the output of the boiler or system it is protecting. To ensure that the correct method of sizing is used, reference should be made to the relevant BS specification for the design of the boiler or system. Fig 500 capacities are tabulated below to assist selection.

| AIR CAPACITY - 10% OVERPRESSURE (BS EN 4126-1) | | | | | | | | |
|--|-----------------------------|------|------|------|------|------|------|------|
| SET PRESSURE BAR | std. litres/sec (Kdr=0.479) | | | | | | | |
| | DN10 | DN15 | DN20 | DN25 | DN32 | DN40 | DN50 | DN65 |
| 1.0 | 18 | 34 | 61 | 95 | 156 | 244 | 381 | 644 |
| 2.0 | 28 | 52 | 93 | 145 | 238 | 372 | 581 | 982 |
| 3.0 | 38 | 70 | 125 | 195 | 320 | 500 | 780 | 1319 |
| 4.0 | 47 | 88 | 157 | 245 | 401 | 628 | 980 | 1656 |
| 6.0 | 67 | 124 | 221 | 345 | 565 | 883 | 1379 | 2331 |
| 8.0 | 86 | 160 | 284 | 445 | 728 | 1139 | 1778 | 3006 |
| 10.0 | 105 | 196 | 348 | 545 | 892 | 1394 | 2178 | 3681 |
| 12.5 | 130 | 241 | 428 | 670 | 1096 | 1714 | 2677 | 4524 |

To convert to ft³/min multiply by 2.1.

| STEAM - 10% OVERPRESSURE (BS 6759) | | | | | | | | |
|------------------------------------|-------------------|-------|------|------|------|------|------|-------|
| SET PRESSURE BAR | Kg/hr (Kdr=0.479) | | | | | | | |
| | *DN10 | *DN15 | DN20 | DN25 | DN32 | DN40 | DN50 | DN65 |
| 1.0 | 50 | 93 | 166 | 259 | 425 | 664 | 1037 | 1752 |
| 2.0 | 76 | 142 | 253 | 395 | 647 | 1012 | 1580 | 2670 |
| 3.0 | 103 | 191 | 340 | 531 | 869 | 1359 | 2123 | 3588 |
| 4.0 | 129 | 240 | 427 | 667 | 1092 | 1707 | 2666 | 4506 |
| 6.0 | 182 | 338 | 600 | 938 | 1537 | 2402 | 3752 | 6341 |
| 8.0 | 234 | 436 | 774 | 1210 | 1981 | 3098 | 4838 | 8177 |
| 10.0 | 287 | 534 | 948 | 1482 | 2426 | 3793 | 5924 | 10013 |
| 12.5 | 352 | 657 | 1165 | 1821 | 2982 | 4663 | 7281 | 12307 |

To convert to lb/hr multiply by 2.2.

* The minimum bore size permitted by BS specifications for steam and hot water boilers is 20mm.

Capacities given for the smaller sizes in the tables, are for applications outside the scope of these standards.

| HOT WATER - UNVENTED SYSTEM - 10% OVERPRESSURE (BS EN 4126-1) | | | | | | | | |
|---|----------------|--------|------|------|------|------|------|------|
| SET PRESSURE BAR | kW (Kdr=0.479) | | | | | | | |
| | * DN10 | * DN15 | DN20 | DN25 | DN32 | DN40 | DN50 | DN65 |
| 1.0 | 31 | 59 | 104 | 162 | 266 | 416 | 650 | 1098 |
| 2.0 | 48 | 89 | 158 | 248 | 405 | 634 | 990 | 1673 |
| 3.0 | 64 | 120 | 213 | 333 | 545 | 852 | 1330 | 2248 |
| 4.0 | 81 | 151 | 267 | 418 | 684 | 1070 | 1670 | 2824 |
| 6.0 | 114 | 212 | 376 | 588 | 963 | 1505 | 2351 | 3974 |
| 8.0 | 147 | 273 | 485 | 758 | 1242 | 1941 | 3032 | 5124 |
| 10.0 | 180 | 335 | 594 | 929 | 1520 | 2377 | 3712 | 6275 |
| 12.5 | 221 | 411 | 730 | 1141 | 1869 | 2922 | 4563 | 7713 |

To convert to Btu/hr multiply by 3,400

The capacities tabulated are for unvented (pressurised or sealed) heating systems.

For vented systems we generally recommend the use of Fig 542 Safety Relief Valves.

Fig 500 Safety Valves can be used for high output systems where its greater discharge capacity is advantageous.

For unvented hot water supply systems, Fig 500T Combined Pressure & Temperature Relief Valves should be used.

| WATER - UNVENTED SYSTEM - 10% OVERPRESSURE (BS EN 4126-1) | | | | | | | | |
|---|--------------------------|------|------|------|------|------|------|------|
| SET PRESSURE BAR | kg/min water (Kdr=0.479) | | | | | | | |
| | DN10 | DN15 | DN20 | DN25 | DN32 | DN40 | DN50 | DN65 |
| 1.0 | 40 | 75 | 134 | 209 | 343 | 536 | 837 | 1414 |
| 2.0 | 57 | 107 | 189 | 296 | 485 | 758 | 1183 | 2000 |
| 3.0 | 70 | 131 | 232 | 363 | 594 | 928 | 1449 | 2450 |
| 4.0 | 81 | 151 | 268 | 419 | 685 | 1072 | 1674 | 2829 |
| 6.0 | 99 | 185 | 328 | 513 | 840 | 1313 | 2050 | 3465 |
| 8.0 | 115 | 213 | 379 | 592 | 969 | 1516 | 2367 | 4001 |
| 10.0 | 128 | 239 | 423 | 662 | 1084 | 1695 | 2646 | 4473 |
| 12.5 | 143 | 267 | 473 | 740 | 1212 | 1895 | 2959 | 5001 |

In the above tables, discharge capacities have been calculated in accordance with BS EN 4126-1 & BS 6759, using a derated coefficient of discharge (Kdr) 0.479, approved by AOTC.

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N Fig. 500
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